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ABSTRACT

Several exploratory studies have begun to look at the role of cognition on sport performance. An enriched understanding of the mental aspects of sport is emerging. Recently a team composed of researchers and a coach has attempted a closer understanding of the cognitive processes involved in the development of young athletes to their performance potential and to attempt to unravel the confusion surrounding the concepts of positive thinking and achievement motivation in the sport of skiing. Achievement motivation is the desire to compete against standards of excellence which are to be evaluated by others. Successful athletes utilize an effective psychological process for achieving and coping with stress in sport. Athletes who come closest to maximizing their potential concentrate most of their out of season practice time on their weaknesses. They do not think negatively about their weaknesses or worry about them. Rather, they devise a practice plan for systematically alleviating their areas of weakness. (JN)

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PSYCHOLOGICAL PROCESSES FOR ACHIEVING AND COPING WITH STRESS IN SPORT

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Since the early days of competitive sport, athletes, coaches, and researchers have suggested that psychological factors play a most important role in sport performance (Bannister, 1955; Epstein and Fenz, 1962; Gallwey, 1972; Harris, 1973; Straub, 1978). Many of the researchers in sport psychology have been particularly interested in understanding the psychology of the elite athlete (Highlen and Bennett, 1979; Murphy and White, 1978; Morgan and Costill; Morgan, 1974; Mahoney and Avener, 1977; Shelton and Mahoney, 1978; Vanek and Cratty, 1970). Coaches and athletes have often argued that success or failure in sport is dependent upon the mental preparation of athletes.

Almost any time that this topic is discussed the concepts of positive thinking (Maltz, 1960; Peale, 1960) and achievement motivation (Atkinson, 1958; Atkinson and Raynor, 1974; McClelland, 1961; Willis and Bethe, 1970) are mentioned as being crucial to achievement and coping with stress in competitive performance. The apparent contradictions present in the two concepts have left many researchers, coaches, and athletes confused. Positive thinking suggests that winners focus their attention on their strengths; think confidently and believe in themselves. Achievement motivation theory emphasizes that effective people give more attention to their weaknesses and as a result constantly improve. The one consistent trend is the fact that an individual's thoughts do play an important role in guiding practice and performance.

Fortunately, several exploratory studies have begun to look at the role of cognitions on sport performance (Morgan, 1978; Mahoney and Avener, 1977; Shelton and Mahoney, 1978; Highlen and Bennett, 1979). An enriched understanding of the mental aspects of sport is emerging. But for the most part these studies have investigated elite athletes already at their performance peak or close to it.

Recently a team composed of researchers and a coach have attempted to gain

a closer understanding of the cognitive processes involved in the development of young athletes to their performance potential and to attempt to unravel the confusion surrounding the concepts of positive thinking and achievement motivation in the sport of skiing (Rotella, Gansneder, Ojala, Billing, 1980). The findings of this study should have interesting implications for aiding athletes in their search for achievement and coping with the stress involved in high level athletics.

Prior to discussing the implications of this research a basic understanding of achievement motivation is in order. Achievement motivation can be most simply described as the desire to compete against standards of excellence which are to be evaluated by others (McClelland, Atkinson, Clark and Lowell, 1953). In general the achievement motivation model describes high achievement motivated individuals as having a stronger motive to achieve success than a motive to avoid failure. Low achievement motivated individuals are believed to have a stronger motive to avoid failure (typically resulting from anxiety about the fear of failure) than to achieve success. Most people are to a greater or lesser extent in conflict as to whether they should approach or avoid potential achievement opportunities. The conflict is often resolved by other factors present in the particular situation; the probability or expectancy of success or failure and the incentive value of success or failure (pride, shame, rewards).

High achievement motivated individuals have been characterized as having a realistic aspiration level, preferring intermediate risk situations, being better able to delay gratification, and attempting to finish tasks they undertake. High achievers also appear more likely to persevere at a task, and have better recall of their mistakes or weakness following a competitive test situation.

With this information in mind there are questions that need to be answered. How do athletes think confidently and positively about themselves while thinking like a high achievement motivated individual and focusing on weaknesses? How do coaches get athletes to work on their weaknesses and yet think positively? Is a coach better off to emphasize only the positive than to focus attention on weaknesses and face the potential discouragement of athletes?

Based on our initial research (Rotella, Gansneder, Ojala, Billing, 1980), it seems that both processes can occur simultaneously. In fact, it appears that thinking of your weaknesses may be crucial to maximizing your potential and thinking positively in the competitive situation. Apparently successful people utilize an effective psychological process for achieving and coping with stress in sport. Coaches and athletes aspiring for success should understand and apply this process.

HUMAN POTENTIAL MAXIMIZERS: AN EFFECTIVE PSYCHOLOGICAL PROCESS

Athletes who come closest to maximizing their potential concentrate most of their out-of-season practice time on their weaknesses. But they do not think negatively about their weaknesses or simply worry about them. Rather, they devise a practice plan for systematically alleviating their areas of weakness prior to the start of their next season. Less effective athletes either intentionally or inadvertently focus a disproportionate amount of their practice time and thoughts on their strengths or simply worrying about their weaknesses.

Coaches should regularly meet with athletes that they coach to discuss their performance-related strengths and weaknesses. An effective practice plan should then be designed for remediating weaknesses and maximizing strengths. Athletes often have very different perceptions of their relative strengths and weaknesses than their coaches. These differences of opinion need to be openly

discussed and resolved prior to establishing an improvement program. The coach's role in this aspect cannot be overemphasized. Frequently, even when there is coach-athlete agreement and the motivation to improve, the athlete lacks the knowledge to effectively design a practice plan that will maximize progress.

Immediately following contests and in between competitive events during the season of competition, more successful athletes actively seek out information on their weaknesses or errors made while performing. Practices are spent attempting to correct or improve deficiencies.

Apparently these athletes recognize that it is of crucial importance to constantly compare present abilities to the demands of future competitions. These athletes constantly attempt to anticipate abilities that will be required of them in the future and plan accordingly. They do not avoid thinking of these upcoming challenges. As is true for other athletes, these thoughts of future challenges make even effective athletes somewhat anxious and worried about what might happen if they are not prepared to meet the upcoming challenge. But the anxiety and worry is only momentary. It is not debilitating. Rather, anxiety and worry are used to help the successful athlete prepare for the upcoming challenge.

The seemingly disproportionate amount of attention directed at weaknesses by more effective athletes is further pointed out by the fact that when previewing a racecourse just prior to a race the more effective skiers attend more to the difficult and/or dangerous parts of the course. These athletes report that they give only scant attention to the easier parts of the course because they know that they can handle them effectively. The more successful skiers attempt to realistically compare their abilities to the task demands of these sections of the racecourse and then attempt to design an effective

strategy for racing the course. These strategies include identifying the parts of the course which realistically required them to slow down and/or speed up. It also included planning an effective method for remembering dangerous and difficult parts of the racecourse. After this was done a strategy for managing this part of the racecourse was always prepared. For the most part, the more successful athletes believe that an honest and accurate appraisal of course demands and skiing abilities was crucial to their planning an effective strategy.

The attentional focus of less effective skiers in previewing the racecourse was less consistent. The common tendency was for these skiers to focus on the easier parts of the course with the rationale that it allowed them to think positively. These athletes believed that a positive attitude was most important to success. Other athletes who were less effective, like their more successful counterparts attended to the more dangerous and difficult parts of the course. However, their response to what they saw was quite different. These athletes responded by getting lost in "the work of worry" about how they would perform on these sections of the racecourse. Unfortunately, the time between previewing the racecourse and getting to the starting gate was spent in an non-productive manner. They simply worried about what might happen during the race.

It is interesting to note that all skiers had similar thoughts when they got into the starting gate. All skiers had positive thoughts. Although our research findings do not explain this phenomena it is possible that only the more effective skiers who have realistically apprasied their abilities and the task demands, eliminated their weaknesses, evaluated the difficult parts of a particular racecourse and planned a strategy for successfully racing it were able to <u>believe</u> their positive thoughts. Skiers who did not prepare and develop

the skills required and failed to face up to the realistically difficult demands of the racecourse knew that they weren't really ready. Whether this is a conscious process or simply a "feeling" is yet to be investigated.

IMAGERY IN ATHLETES

There is little doubt today that successful athletes utilize their imagination to aid them in the process of coping with the stress of performance. The kinds of imaginative practice which are most crucial to success, however, are more open to debate.

Our findings have determined that more effective skiers used a combination of external imagery (visual, mental pictures of the racecourse and the line they wished to ski) and internal imagery (feelings of how they wished to feel when racing the course). In general, when utilizing external imagery to prepare themselves on race day after previewing the course, their images were of the racecourse (including gates, line, tips of skis and sometimes ski boots). This evidence suggests that coaches who are using imagery techniques in training their athletes should recognize that as the competitive event nears, visual images should focus on what the athlete sees when performing. Possibly only in the practice or learning phases should emphasis be placed on having the athletes visualize seeing themselves execute the skills required in their sport.

Apparently these attempts will have to be directed by a coach or leader. It appears that a developmental process may be at work here. All skiers may simply be responding to their skill level. As a result the more effective skiers focus mainly on the racecourse because they have the mechanics mastered and no longer need to think of them. So these athletes imaginally rehearse the racecourse and are able to more effectively prepare and therefore perform better. Perhaps a very different process occurs in the minds of the less effective skiers because they haven't mastered or don't <u>believe</u> that they have mastered mechanics

Table 1

COPING RESPONSES OF ATHLETES
TO STRESS

*AVOID ANXIETY	*MAINTAIN ANXIETY	*REDUCE ANXIETY
1. Approach Sport a) Feels anxious and uncomfortable b) Quit and leave further sport participation c) Form negative impression of sport competition 2. Approach Sport a) Feels anxious b) Escapes from anxieties c) Thinks positively d) May perform quite well if very talented e) Never attain maximum potential 3. Approach Sport a) Feels anxious b) Escapes from anxieties c) Drug use d) Excessive drinking alcohol	1. Approach Sport a) Athlete perceives deficiencies when appraising competitive situation b) Physical skills and coping skills are not equal to the task demands c) Feels anxious d) Gets lost in the "work of worry"	1. Approach Sport a) Athlete perceives the competitive situation realistically b) Appraises personal abilities and task demands c) Athletes realistically appraises task demands and skills available d) Athlete goes through effective coping process 1) Gets anxious 2) Reads and interprets anxieties 3) Anticipates upcoming problem situations likely to occur 4) Consciously attempts to solve problems by planning a realistic strategy 5) Athlete is prepared and confident for competition 6) Athlete "thinks positively"

*All responses are capable of being changed.

yet. So these athletes imaginally rehearse their own body mechanics more than the racecourse in preparing for competition. As a result, these athletes give less attention to the upcoming racecourse and are therefore not as preapred as they need to be for maximum performance.

It appears, therefore, that when preparing athletes for competition through the use of imagery all athletes and, in particular, the less skilled athletes, might benefit from focusing their rehearsal away from their own body mechanics. Instead, they should rehearse their strategy for competition and visualize performance as they would see it through their own eyes while performing in competition.

The use of internal imagery by the more effective skiers, but not by the less effective athletes, is also of interest. But at close inspection it is not so surprising. It is, indeed, quite difficult to rehearse the"feeling" of perfect execution of your sport skill if you have never experienced what it feels like. Most likely once you "get it" you can then utilize this psychological training technique in preparing for competition.

Because of the apparent importance of this stragegy for high level skill performance, techniques designed for developing "the feeling" should be incorporated into training programs. Some success has been experienced by having athletes execute their sport skills blindfolded. This technique encourages athletes to take greater advantage of senses other than vision which appear to be important to developing feel. The technique is appropriate as long as doing so is not dangerous. Blindfolded practice is often augmented by slow-motion practice. Group discussion among coaches and athlete who attempt to describe the feelings in various body parts when they execute their sport skills effectively and ineffectively may also prove to be helpful. It seems that once these feelings are experienced and identified athletes become much more successful at

self-correction and continued improvement of performance.

CONCLUDING COMMENTS

It appears that athletes who wish to maximize their potential need to utilize concepts appropriate to both achievement motivation and positive thinking. A cognitive process for effectively doing so has been outlined that should be beneficial to athletes and coaches. Both internal and external imagery techniques can play an important role in athlete development. But athletes must be helped and guided in their rehearsal techniques or they may simply respond to their developmental level and fail to gain the potential benefits of such techniques.

Much more research is needed on each of these topics before we can confidently tell coaches and athletes that the ideas suggested here will definitely improve athletic performance. But these findings appear logical and feasible to implement.

It is our "feeling" that as researchers look more closely at developing athletes and their cognitive processes much more applicable information will be established. But we should focus our attention on athletes who seemingly perform up to their potential rather than to emphasize the study of winners and losers. Too often athletes with an abudance of talent are successful in terms of winning or losing but fail miserably at reaching their maximum potential. Using such athletes as our research models appears to be an ineffective approach. This is especially true if our goal is to understand the cognitive processes for achieving and coping with stress in sport, so that we can design psychological training techniuues which can help athletes and coaches maximize human potential.

REFERENCES

Atkinson, J. W. Motives in fantasy, action and society. Princeton: Van Nostrand, 1958.

Atkinson, J. W. and Raynor, J. O. Motivation and achievement. Washington, D. C.: V. W. Winston and Sons, 1974.

Bannister, R. The four-minute mile. New York: Dodd, Mead, 1955.

Epstein, S. and Fenz, W. D. Theory and experiment on the measurement of approach conflict. Journal of abnormal and social psychology, 1962, 64, 97-112.

Gallwey, T. The inner game of tennis. New York: Random House, 1974.

Harris, D. V. Involvement in sport: A somatopsychic rationale for physical activity. Philadelphia: Lea and Febiger, 1973.

Highlen, P. and Bennett, B. Psychological characteristics of successful and non-successful elite wrestlers: An exploratory study. Journal of Sport Psychology, 1979, 1, 123-137.

Mahoney, M. J. and Avener, M. Psychology of the elite athlete: An exploratory study. Cognitive Therapy and Research, 1977, 1, 135-141.

Maltz, M. Psycho-cybernetics. Englewood Cliffs: Prentice-Hall, 1960.

McClelland, D. C. The achieving society. Princeton, N. J.: Van Nostrand, 1961.

McClelland, D. C., Atkinson, J. W., Clark, R. A., and Lowell, E. L. The Achievement Motive. New York: Appleton-Century-Crofts, Inc., 1953.

Mehrabian, A. Measures of achieving tendency. Educational and Psychological Measurement, 1969, 29, 445-451.

Morgan, W. P. Selected Psychological Considerations in Sports. Research Quarterly, 1974, 45, 374-390.

Morgan, W. P. and Costill, D. L. Psychological characteristics of the marathon runner. Journal of Sports Medicine and Physical Fitness, 1972, 12, 42-46.

Murphy, M. and White, R. The psychic side of sports. Addison-Wesley Publishing company, 1978.

Peale, N. V. The power of positive thinking. Englewood Cliffs: Printice-Hall, 1960.

Rotella, R. J., Gansneder, B., Ojala, D., and Billing, J. Cognitions and coping strategies of elite skiers: An exploratory study of young developing athletes. Unpublished manuscript, University of Virginia, 1980.

Shelton, T. O. and Mahoney, M. J. The content and effects of psyching up strategies in weight letters. Cognitive Therapy and Research, 1978, 2, 275-284.

Straub, W. F. (Ed.), Sport Psychology: An analysis of athlete behavior. Movement Publications, 1978.

Vanck, M. and Cratty, B. J. Psychology and the superior athlete. New York: MacMillan, 1970.

Willis, J. D. and Bethe, D. Achievement motivation: Implications for physical activity. Quest, 1970, 13, 18-22.